

Introduction

The following curricular materials are the work of many District of Columbia teachers and administrators who were committed to developing useful tools to help teachers understand and effectively use the school district's new learning standards. The Office of Academic Services oversaw the development of this guide.

The learning standards specify what students should know and be able to do at the end of each grade level or course. Students are held responsible for learning standards listed at earlier grades, as well as for those listed at their current grade. The learning standards are now driving all instruction, assessment, and staff development in the district.

Organization of the Document

This curriculum guide is a companion to the pre-K through grade 12 standards documents — one each for reading/English language arts, mathematics, science, and social studies. Those documents allow teachers, students, administrators, parents, and others to see the learning standards *across all the grades*. With that guide, for instance, a 3rd grade teacher can see which standards the student should have mastered in grade 2 and earlier — and which standards will need to be mastered in grade 4 and beyond.

This guide, by contrast, looks only at the standards for a single grade or subject, but it adds additional depth to help teachers better understand the standards and know how to teach and assess them in the classroom. It is divided into four sections:

Introduction

- This section contains an overview of all the integrated pieces of the curriculum guide and how they work with each other (Connecting the Dots: From Seeing the Standard to Mastering It, plus a sample worksheet and Bloom's Taxonomy).
- This section also includes acknowledgments, which recognize the contributions of the scores of DC educators and others who helped develop the guides.

Tab 1: Grade-Level Standards and Learning Activities

- This section contains the learning standards for each subject and grade, supplemented by brief examples of learning activities that further clarify the meaning of the standards.
- The reading/English language arts guides also include a grade-level reading list of suggested authors and titles.

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Tab 2: Grade-Level Year at a Glance, Unit Roadmaps, and Standards-Based Worksheets

- This section contains a chart depicting the year at a glance, which identifies the "power standards" for each subject and grade, groups those power standards into instructional units, and suggests when during the school year the units should be the focus of instruction.
- The section also contains unit roadmaps, which group "power standards" and "connecting standards" together into units of instruction. The roadmaps also include a rationale for the grouping, plus cross-references to the primary textbook and other resources.
- Finally, standards-based worksheets provide additional detail about each "power standard" and how it might be taught, including big ideas, essential questions, engaging scenarios, performance tasks, performance assessments, and standards-based assessments.

Tab 3: Grade-Level Sample Assessment Items

- This section contains sample test items for each subject and most grades; in future years there will be sample assessment items for all grades. These test questions will help teachers, students, and others better understand how the learning standards will be measured.

This guide is a work in progress. Teachers, administrators, and curriculum writers will be developing and disseminating additional material for sections 2 and 3 as the school year continues.

For additional information about these materials, please contact the Office of Academic Services at 202-442-5599.

ABOUT THE ORDER

Each section of the *grade-specific* guides organizes the subjects in the following order: reading/English language arts, mathematics, science, and social studies.

Each section of the *subject-specific* guides organizes the material chronologically by grade: kindergarten, followed by grade 1, grade 2, grade 3, etc.

About the Reading/English Language Arts Standards

The reading/English language arts learning standards for prekindergarten through grade 12 are organized by grade level and presented in eight strands.

Each learning standard in every grade has a unique identifier that consists of:

- **Grade level:** pre-K, K, 1, 2, 3, etc.
- **Strand:** LD = Language Development, BR = Beginning Reading, IT = Informational Text, LT = Literary Text, R = Research, W = Writing, M = Media, EL = English Language Conventions
- **Substrand category (in some cases):** such as Poetry (LT-P) and Drama (LT-D) within Literary Text
- **Standard number:** 1, 2, 3, 4, etc.

For example, standard 1.LD-V.8 is the eighth standard of the Language Development strand, is in the Vocabulary category, and should be mastered in grade 1. Standard 4.IT-A.7 is the seventh standard of the Informational Text strand, is in the Argument and Persuasive Text category, and should be mastered in grade 4.

Many of the strands have multiple categories:

Language Development (LD)

- Discussion (LD-D)
- Questioning, Listening, and Contributing (LD-Q)
- Oral Presentation (LD-O)
- Vocabulary Development (LD-V)

Beginning Reading (through grade 5) (BR)

- Print Concepts (BR-PC)
- Phonemic Awareness (BR-PA)
- Phonics (BR-P)
- Fluency (BR-F)

Informational Text (IT)

- Expository Text (IT-E)
- Document and Procedural Text (IT-DP)
- Argument and Persuasive Text (IT-A)

Literary Text (LT)

- Understanding Text (LT-U)
- Connections (LT-C)
- Genre (LT-G)
- Theme (LT-T)
- Fiction (LT-F)
- Poetry (LT-P)
- Style and Language (LT-S)
- Drama (LT-D)
- Literary Nonfiction (LT-LNF)
- Traditional Narrative and Classical Literature (LT-TN)

Research (R)

Writing (W)

- Imaginative Writing (W-I)
- Expository Writing (W-E)
- Revision (W-R)

Media (M)

English Language Conventions (EL)

About the Mathematics Standards

The mathematics learning standards for prekindergarten through grade 8 are organized by grade level and presented in five strands. High school standards are organized by course.

Each learning standard in every grade or course has a unique identifier that consists of:

- **Grade level:** Pre-K, K, 1, 2, 3, etc., or course AI = Algebra I; G = Geometry; AII = Algebra II; PS = Probability and Statistics; and PCT = Precalculus and Trigonometry
- **Strand:** NSO = Number Sense and Operations; PRA = Patterns, Relations, and Algebra; G = Geometry; M = Measurement; and DASP = Data Analysis, Statistics, and Probability
- **Substrand (in some cases):** The Number Sense and Operations strand, for instance, has four substrand categories: Number Sense (NSO-N); Fractions, Decimals, and Percents (NSO-F); Estimation (NSO-E); and Computation and Operations (NSO-C).
- **Standard number:** 1, 2, 3, 4, 5, etc.

For example, standard 4.G.6 is the sixth standard of the Geometry strand in grade 4. Standard AI.N.12 is the 12th standard of the Number Sense and Operations strand in the Algebra I course.

The five strands for prekindergarten through grade 8 are:

- Number Sense and Operations
- Patterns, Relations, and Algebra
- Geometry
- Measurement
- Data Analysis, Statistics, and Probability

The standards for grades 9 through 12 are organized under the following discipline headings:

- Algebra I
- Geometry
- Algebra II
- Probability and Statistics
- Precalculus and Trigonometry

To allow schools and teachers flexibility, the standards do not mandate that a particular high school course be initiated and completed in a single grade. For example, students could take Geometry in grade 9, 10, or 11, depending on the preferred sequence of course offerings at each high school, but all students are required to take Algebra I and Geometry to graduate. We stress that the content included in middle school through the high school courses of Algebra I and Geometry represents a minimum; it defines what will be assessed and what will be required for graduation. Students must have the opportunity to learn significantly more, including the opportunity to study proper algebra in grade 8 — if not in grade 7 — as do students in Singapore and Japan.

About the Science Standards

In the elementary grades, the standards integrate all of the major domains of science every year. At the middle and high school levels, the standards adopt a discipline-based approach. The high school science standards are written to allow for choice in course organization and sequence. Specifically:

- Prekindergarten through grade 5 is organized according to the domains of science: earth, life, and physical sciences, with standards for scientific thinking and inquiry listed separately.
- Grades 6 through 8 each focus on one of the domains: grade 6 on earth sciences, grade 7 on life sciences, and grade 8 on physical sciences. Standards are listed under key areas of study, noted by topic headings (e.g., solar system, plate tectonics).
- High school is organized by courses (e.g., Earth Science, Biology, Chemistry, Physics, and Environmental Science) and is similarly formatted around key areas of study.

Prekindergarten-Grade 1 Standards

- Scientific Thinking and Inquiry
- Earth Science
- Physical Science
- Life Science

Grades 2-5 Standards

- Scientific Thinking and Inquiry
- Science and Technology
- Earth Science
- Physical Science
- Life Science

Grade 6 Standards

- Scientific Thinking and Inquiry
- Science and Technology
- The Solar System
- Heat (Thermal Energy)
- Weather and Climate
- Resources
- The Rock Cycle
- Plate Tectonics
- Earth and Life History

Grade 7 Standards

- Scientific Thinking and Inquiry
- Science and Technology
- Biological Classification
- Cell Biology
- Genetics
- Biological Evolution
- The Human Body
- Ecology

Grade 8 Standards

- Scientific Thinking and Inquiry
- Structure of Matter
- Reactions
- Density and Buoyancy
- Conservation of Energy
- Electricity and Magnetism
- Forces
- Waves

High School Earth Science Standards

- Scientific Investigation and Inquiry
- The Universe
- The Solar System
- The Earth System
- The Hydrologic Cycle
- The Rock Cycle
- Plate Tectonics

High School Biology Standards

- Scientific Investigation and Inquiry
- Chemistry of Living Things
- Cell Biology
- Genetics
- Biological Evolution
- Plant Biology
- The Mammalian Body
- Ecosystems

(continued)

High School Chemistry Standards

- Scientific Investigation and Inquiry
- Properties of Matter
- Acids and Bases
- The Atom
- Nuclear Processes
- Chemical Bonds
- Conservation of Matter
- Gases and Their Properties
- Chemical Equilibrium
- Solutions
- Chemical Thermodynamics
- Organic and Biochemistry

High School Physics Standards

- Scientific Investigation and Inquiry
- Motion and Forces
- Conservation of Energy and Momentum
- Mechanics of Fluids
- Heat and Thermodynamics
- Waves
- Electromagnetism
- Nuclear Processes

High School Environmental Science Standards

- Scientific Investigation and Inquiry
- Environmental Systems
- Ecosystems
- Populations
- Natural Resources
- Watersheds and Wetlands
- Energy in the Earth System
- Environmental Quality

About the Social Studies Standards

The learning standards for U.S. and world history are grouped in time periods commonly accepted by historians. Essential topics that build a chronologically organized history and establish social science knowledge were selected to set standards that can be taught and mastered within a specific time frame. Teachers are encouraged to elaborate on the content outlined here, to add topics they feel are important, and to organize material thematically. They also are encouraged to enrich the classroom experience by incorporating current events and issues that have a significant relationship to important historical themes or events under study.

These standards integrate the four major disciplines of history, geography, economics, and politics and government. They are not presented in separate strands, although grade 6 focuses on geography and grade 12 focuses on government, including U.S. and Washington, DC, governments.

A coding system has been used throughout the document to indicate the disciplinary content stressed in a standard that details U.S. or world history. These include the principal disciplines of geography (G), economics (E), and politics and government (P); the characteristics of religious thought and ideas (R); and the social impact of events (S), military action (M), and intellectual thought (I) that have advanced civilizations.

Prekindergarten — People and How They Live

- People and How They Live
- Economics
- Time, Continuity, and Change
- Geography
- Civics Values and Historical Thinking

Kindergarten — Living, Learning, and Working Together

- Geography
- Historical Thinking
- Civic Values
- Personal and Family Economics

Grade 1 — True Stories and Folktales from America and around the World

- Geography
- Civic Values
- Earliest People and Civilizations of the Americas

Grade 2 — Living, Learning, and Working Now and Long Ago

- Geography
- Civic Values

Kindergarten through Grade 2 — Historical and Social Sciences

- Analysis Skills
- Chronology and Cause and Effect
- Geographic Skills
- Historical Research, Evidence, and Point of View

Grade 3 — Geography and History of the District of Columbia

- Geography of DC
- Government of DC
- Economy of the Local Region
- History of DC (18th-20th Centuries)

Grade 4 — U.S. History and Geography: Making a New Nation

- The Land and People before European Expansion
- Age of Exploration (15th-16th Centuries)
- Settling the Colonies to the 1700s
- The War for Independence (1760-1789)

Grade 5 — U.S. History and Geography: Westward Expansion to the Present

- The New Nation's Westward Expansion (1790-1860)
- The Growth of the Republic (1800-1860)
- The Civil War and Reconstruction
- Industrial America (1870-1940)
- World War II (1939-1945)
- Economic Growth and Reform in Contemporary America (1945-Present)

Grades 3-5 — Historical and Social Sciences Analysis Skills

- Chronology and Cause and Effect
- Geographic Skills
- Historical Research, Evidence, and Point of View

Grade 6 — World Geography and Cultures

- The World in Spatial Terms
- Places and Regions
- Human Systems
- Economic Systems and Urbanization
- Physical Systems
- Environment and Society

(continued)

Grade 7 – World History and Geography: Ancient World

- Era I: Early Humankind and the Development of Human Societies
- Era II: Early River Civilizations to 1000 B.C./B.C.E.
- Era III: Ancient and Classical Civilizations to 700 C.E.

Grade 8 – U.S. History and Geography I: Growth and Conflict

- Our Colonial Heritage (1600-1720)
- A New Nation (1720-1787)
- The Constitution of the United States (1777-1789)
- Launching the New Nation (1789-1849)
- The Divergent and Unifying Paths of the American People (1800-1850)
- Civil War and Reconstruction (1830-1877)
- The Rise of Industrial America (1877-1914)

Grades 6-8 – Historical and Social Sciences Analysis Skills

- Chronology and Historical Interpretation
- Geographic Skills

Grade 9 – World History and Geography I: Middle Ages to the Age of Revolutions

- Era IV: Middle Ages
- Era V: Early Modern Times to 1650
- Era VI: Age of Revolutions

Grade 10 – World History and Geography II: The Industrial Revolution to the Modern World

- Era VI: Age of Revolutions to 1914
- Era VII: The Great Wars to 1945
- Era VIII: The Cold War to the Present

Grade 11 – U.S. History and Geography II: Industrial America to the Present

- United States to the 1800s
- The Rise of Industrial America (1877-1914)
- The Progressive Era (1890-1920)
- The 1920s and 1930s
- The Great Depression (1929-1939)
- World War II (1939-1947)
- Cold War America to the New Millennium (1947-2001)
- Contemporary America

Grade 12 – Principles of U.S. Government

- Principles of U.S. Government
- Branches of Government
- Elections and the Political Process
- Rights and Responsibilities of Citizens
- Federal Government and the Economy
- Comparative Government

Grade 12 – District of Columbia History and Government

- Early Settlements and Geography
- A New National Capital and a New City
- Slavery, War, and Emancipation
- Reconstruction Period
- Late 19th and Early 20th Centuries
- 20th-Century Expansion and Urban Challenges
- Civil Rights and Home-Rule Victories
- Addressing Opportunities and Problems under Home Rule
- District Government

Grades 9-12 – Historical and Social Sciences Analysis Skills

- Chronology and Historical Interpretation
- Geographic Skills
- Historical Research, Evidence, and Point of View

Principles of Economics

- Economic Terms
- Market Economy
- U.S. Labor Market
- International Trade

Connecting the Dots: From Seeing the Standard to Mastering It

GRADE-LEVEL STANDARDS AND LEARNING ACTIVITIES

Strand: Informational Text <i>(Continue to address earlier standards as needed and as they apply to more difficult text.)</i>
EXPOSITORY TEXT
4.IT-E.1. Identify the purpose and main points of a text and summarize its supporting details. <i>Example: Students read Christopher Columbus by Stephen Krensky. In pairs they summarize important facts of a voyage, arrival, search for gold, failure to understand the treasures on the island, and return to Spain. Then students illustrate their reports and display them in the classroom or library.</i>
4.IT-E.2. Distinguish fact from opinion. <i>Example: Students read a passage about President Lincoln. Students then underline the facts in red and the opinions in blue.</i>
4.IT-E.3. Identify cause-and-effect relationships stated and implied. <i>Example: Students read David McCouley's The New Way Things Work, which details new machines and the inventions that have changed the world. Students identify what causes the various technologies to work.</i>

In the first section of the curriculum guide, teachers are provided with grade-specific standards. Many contain sample learning activities (written in italics) that further clarify the meaning of the standard for teachers and students alike. The sample learning activities show how a standard might be addressed in the classroom and also provide teachers with ideas that they can develop into standards-based worksheets (described on the next page) or lesson plans. (Note: Teachers also have subject-specific guides to the standards for pre-K through grade 12, described on page 11.)

Teachers will note that in reading/English language arts and mathematics, the standards are organized according to “strands” (e.g., beginning reading, informational text, English language

conventions, number sense and operations, measurement) and employ a numbering system that alerts the teacher to the strand in which a standard falls. Science and social studies use a different numbering system, built on the broad concepts around which those standards are organized.

The new learning standards are the driving force behind instruction, assessment, and staff development in DCPS.

GRADE-LEVEL YEAR AT A GLANCE CHARTS

The second section of the curriculum guide starts with a chart depicting the year at a glance. This overview has two primary purposes: (1) to identify the “power standards” in a given content area for a given grade and (2) to sequence the coverage of those power standards into instructional units that cover the school year.¹ Each year at a glance contains a grade or course overview that provides teachers with a rationale for the sequencing of the units.

Following the year at a glance are unit roadmaps and standards-based worksheets.

	UNIT	POWER STANDARDS COVERED
1st advisory	Unit 1: It's the Details	4.IT-E.1. Identify the purpose and main points of a text and summarize its supporting details. 4.W-E.3. Create paragraphs that • establish and support a central idea in a topic sentence • include supporting sentences with simple facts, details, and examples • include a concluding statement that summarizes the main idea • are indented properly.
	Unit 2: Dramatic Dialogue	4.LT-G.2. Distinguish among common forms of literature and identify the edge of their structural elements. 4.LD-V.12. Identify the meaning of figurative language.

All standards are not equal. Some grade-level expectations stand out because they are of a higher cognitive order or encompass other skills, such as “identify the purpose and main points of a text and summarize its supporting details” (grade 4). They prepare a student for the next level of study, qualify as an enduring life skill, or relate to other domains or disciplines. Stated simply, they are standards with “**power.**”

The **power standards** identified in this guide reflect frameworks of the National Assessment of Educational Progress (NAEP). They represent the essential and enduring core knowledge and skills students must have to move successfully to the next level of instruction. The power standards are also an important organizational tool for teachers; they provide direction for instruction. They assist in prioritizing and organizing the skills and knowledge that must be taught.

¹While the year at a glance charts are organized around advisories, teachers on a “4 x 4” or other alternative schedule should move through the sequence identified, accelerating the time according to the schedule. In addition, teachers using a special curricular program — such as Springboard — should focus on the power standards and their connecting standards in a sequence that is compatible with the program. This may require variance from the outline in the year at a glance. However, the other tools in this section should be consulted and used by all teachers.

GRADE-LEVEL UNIT ROADMAPS

Unit roadmaps group standards that support and reinforce one another into units of instruction. Grade-level unit roadmaps contain three important components:

- Identification of “connecting standards” that support, reinforce, and are relevant to the teaching and learning of the “power standards.”
- A rationale for grouping particular power standards and connecting standards into instructional units, which explains how the group of standards works together, taking advantage of synergies between and among the standards.
- An indication of where in the primary textbook resource a teacher might find lessons to support the instruction.

POWER STANDARD	CONNECTING STANDARDS	RATIONALE	RESOURCES ALIGNMENT
4.IT-E.1. Identify the purpose and main points of a text and summarize its supporting details.	4.LD-D.1. Follow agreed-upon rules for class discussion and carry out assigned roles in self-run small group discussions, including posing relevant questions and building on the ideas of others.	Fourth graders begin the year looking at texts for both the overarching message and how the author used language to develop nuances of meaning.	<i>Houghton Mifflin Teacher's Edition Traditions</i> . The pp.685A-685B
4.W-E.3. Create paragraphs that <ul style="list-style-type: none"> • establish and support a central idea in a topic sentence at or near the beginning of the paragraph; 	4.EL.6. Spell <ul style="list-style-type: none"> • syllable constructions (closed, open, consonant before) • base words, inflections such as those that change tense or number, suffixes such as 	Students are immediately asked to form responses to texts, fashioning critical analyses in paragraph form. Those analyses should represent sequential thinking on the student's part with an attention to	<i>Houghton Mifflin Teacher's Edition Traditions</i> . The pp. 181K-181L

The sequencing and grouping of power standards and connecting standards — along with the accompanying rationales — help teachers see how each standard builds on and connects to others. Organizing coherent units of instruction in this fashion will help teachers avoid the pitfall of simply moving down the list of standards or dividing the standards among the number of instructional days without regard to the varying learning demands of each standard. This approach helps to focus time, energy, and teaching appropriately and will ensure that *all* standards in a particular grade are covered in a logical and effective sequence.

A note about textbooks: Teachers will notice that units on the roadmap are not organized around the textbook; they have been uniquely organized around the DCPS standards and are independent of any naming device a teacher might be familiar with from the textbook. This is intentional. DCPS is building a curriculum that will stand on its own, independent of a particular textbook. Moreover, textbooks often have specific gaps in information and are not expected to cover all concepts and skills contained within the standards. They should be seen as resources. Using standards to guide a teacher's instruction will ensure consistency and allow for more creativity and accountability in curriculum building than following a single text.

PERFORMANCE TASKS	THINKING SKILLS (LOT → HOT)*	PERFORMANCE TASK ASSESSMENT (PROFICIENT CRITERIA)
Students read a new article independently and identify the author's purpose. Students justify the author's purpose in writing.	Identify (knowledge)	Student clearly and completely identifies the author's purpose in the selected text.
STANDARD	*See Bloom's Taxonomy of Thinking Skills to determine higher order create tasks that employ higher order thinking skills.	
4.IT-E.1. Identify the purpose	Standard Assessment: This article gives reasons for keeping a journal. Explain specific information from the article to support your answer. (2004 MCAS Grade 4 Item 35)	
Concepts: <ul style="list-style-type: none"> • text • purpose • main points • supporting details 	Resources: Textbook Materials: <i>Houghton Mifflin Reading Teacher's Edition, Grade 4</i>	
Skills: <ul style="list-style-type: none"> • identify (purpose, main points) • summarize 	Supplementary Materials: Kidspost in print or on-line at www.Washingtonpost.com author's purpose, main idea and supporting details. Children's Magazines- <i>Scholastic</i> , <i>Sports Illustrated</i> identifying author's purpose, main idea and support <i>National Geographic for Kids</i> (Articles also available)	
Big Ideas: <ul style="list-style-type: none"> • Authors write with a purpose • Texts often contain several • Supporting details explain • Identifying the main points 		
Essential Questions: <ul style="list-style-type: none"> • How do you determine the • Why is it important to determine the author's purpose? • How do you identify the main points of a text? • How do you identify supporting details? • Why is it important to identify the main points and support in a given text? 		
Engaging Scenario: You are a research assistant. An important researcher has author's purpose and create a chart showing the main points must include a column for you to discuss your personal response.		

GRADE-LEVEL STANDARDS-BASED WORKSHEETS

Grade-level standards-based worksheets “drill down” on each power standard and provide the teacher with tools to better

understand and teach the standard. At the end of this section, you will find a *sample worksheet*, which describes the various parts of a worksheet — including big ideas, essential questions, engaging scenarios, performance tasks, performance assessments, and standards-based assessments. The worksheets discuss higher-order and lower-order thinking skills, based on *Bloom's Taxonomy*. A copy of Bloom's Taxonomy also is included after the sample worksheet.

Worksheets also list resources, both textbook and supplemental. Specific attention has been given to identifying Web-based supplemental resources.

Worksheets provide detail for teachers — giving them the means to immerse themselves (and their students) in a standard, dissecting and unwrapping it to result in greater mastery by students.

The Box in the Barn

by Barbara Eckfeld Conner

Jason heard his mom calling him. Instead of answering her, he slipped deeper into the tall weeds behind his house. He closed his eyes, thinking of what he had done.

He had gotten up that morning in a good mood. Raspberry pancakes were on the table when he walked into the kitchen rubbing his eyes and yawning.

"After breakfast, Jason, I want you to go into town with me," Mom said quietly. "It's your sister's birthday, and we need to shop for her gifts."

Jason was eager to go, even if the gifts weren't for him. Buying presents was always fun.

Jason couldn't help but ask the question on his mind since yesterday when Aunt Nancy had given him a big box that Dad took to the barn. Mom said, "Nancy bought for Megan's birthday?" Jason said, "Yes, and I don't want you going near that barn now."

Jason ran down the road ahead. He knew that nothing would stop him now he was more curious than ever! He ran out to meet Jason, her eyes wide and open. "I'm six years old!" she cried, jumping up and down.

Jason gave her a big hug. She was buzzing with excitement. Megan sat on the grass while Mom and Aunt Nancy prepared the food. Dad wouldn't be back for at least two hours. Jason was trying to think of something to do, but he was turning to the box in the barn.

Jason ran toward the barn, not at all sure what he'd find. He was hoping for just a glimpse of the box. He heard a strange noise coming from inside the barn.

INFORMATIONAL TEXT

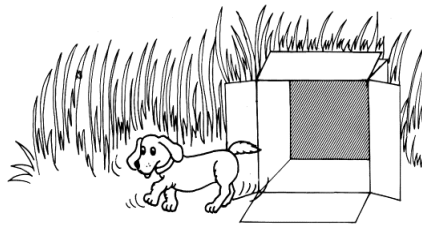
When Megan spoke to Jason in the tall weeds, she was concerned that

- A. she wouldn't get enough presents
- B. her dad wouldn't get back in time for the party
- C. something was wrong with Jason
- D. the puppy was missing from the box

INFORMATIONAL TEXT

Which best describes Jason's father?

- A. Strict and unwilling to listen to Jason
- B. Understanding and patient with Jason
- C. Curious and puzzled by the empty box
- D. Angry and sad that Jason hid



GRADE-LEVEL SAMPLE ASSESSMENT ITEMS

Grade-level sample assessment items are drawn from the National Assessment of Educational Progress (NAEP, commonly referred to as the "nation's report card") and various state assessments that are highly regarded for their rigor. They are included to inform the teacher about the types of test items students may have at the end of the year on both the NAEP and the DC Comprehensive Assessment System (DCCAS). They offer teachers and students another perspective on the standard and what it means. As sample assessment items from the DCCAS are released, they will be added to this guide.

SUBJECT-SPECIFIC PRE-K THROUGH GRADE 12 GUIDES

These guides, one for each subject, list *all* the standards in a specific content area. The standards specify what students should know and be able to do at the end of each grade level or course. Seeing the progression of skills across the grades is an important tool for teachers. In this standards guide, a teacher can see what students were taught and should have mastered in earlier grade(s) as well as what they are expected to learn and know in subsequent years through the 12th grade.



GRADE X STANDARDS-BASED WORKSHEET

DISTRICT OF COLUMBIA PUBLIC SCHOOLS — SUBJECT

STANDARD

A *standard* is a statement of what students should know and be able to do at each grade level. Depending on the content area, there are typically 35 to 60 standards per grade. For purposes of helping teachers prioritize and organize instruction, standards are identified as “power” or “connecting.”

Power standards and connecting standards are grouped together to create units of instruction. The *standards-based worksheet* is designed to support instruction at the individual standard level. Teachers should use the worksheet to guide a series of classroom activities that reinforce mastery of the concepts and skills embedded in the standard.

The worksheets in this guide are exemplars and focus exclusively on the power standards contained in each of the instructional units. Teachers are encouraged to develop their own worksheets for connecting standards, based on these examples.

The standard, and its number, should be listed on the worksheet.

Concepts:

Concepts are ideas and information that students need to know. They are listed as the nouns in the standard statement.

Identifying concepts (and skills, below) is part of a systematic process of “unwrapping standards,” which helps teachers to develop a deeper understanding of the standard when planning instruction and assessment. Listing these concepts can help the teacher to develop activities and assessments that relate to the standard.

All concepts (i.e., nouns) in the standard should be listed in bullet form.

Skills:

Skills are what students are expected to do to demonstrate mastery of the concepts and content. They are listed as the verbs in the standard statement. A single skill may apply to multiple concepts.

By listing these skills, teachers begin to see and understand how they correlate to Bloom’s Taxonomy of thinking skills, which teachers will use when planning performance tasks and assessments within the engaging scenario (below).

All skills (i.e., verbs) in the standard should be listed in bullet form. When a skill applies to multiple concepts, the concepts are listed in parentheses after the skill.

Big Ideas:

Big ideas are statements derived from a deep understanding of the concepts or content; they are enduring ideas that can apply to more than one area of study and can be the answer to the essential questions (below).

Big ideas provide a broad perspective, purpose, and rationale. They are what we want students to discover and remember long after instruction ends, such as “authors write with a purpose” in the accompanying grade 4 reading/English language arts sample worksheet. They explain what students are doing, as well as how and why it relates to larger ideas.

Big ideas should be bulleted, stated clearly and simply, and in the teacher’s voice. Three or four should be identified for each standard.

Essential Questions:

Essential questions focus on conceptual and factual understandings to be investigated within the big idea. They are open-ended and communicate the fundamental and crucial elements of the content. For example (from the accompanying grade 4 reading/English language arts sample worksheet): “How do you identify the main points of a text?”

Essential questions help students reflect on their learning before, during, and after classroom instruction so that the students find themselves working with the big ideas in their own words. They are meant to engage inquiry and raise important conceptual or philosophical issues. They should be shared with the student at the beginning of instruction and should guide the teacher in the development of performance tasks.

Essential questions should mostly be “how” or “why” (vs. “what”). A minimum of four questions should be developed and listed for each standard.

Engaging Scenario:

An *engaging scenario* is the “hook” into a series of performance tasks (below) designed to attract and hold student interest. For example (from the accompanying grade 4 reading/English language arts sample worksheet): “A research assistant is required to summarize an article for his/her boss.” It sets the context for the series of tasks and connects learning to the real world.

In an engaging scenario, students are learning practical skills and concepts in a relevant context that encourages the learner to think, reflect, and decide. Students begin the series of performance tasks within the engaging scenario after they have experienced some instruction to introduce them to the big ideas and essential questions. The most effective engaging scenarios often are collaborative and project based, giving students multiple paths for completing the performance tasks.

Teachers should describe the engaging scenario or context for the performance tasks. Teachers are encouraged to use a real-world setting where students are required to enter a “role” to complete the tasks.

PERFORMANCE TASKS	THINKING SKILLS (LOT→HOT)*	PERFORMANCE TASK ASSESSMENT (PROFICIENT CRITERIA)
<p>Performance tasks are a collection of related activities or projects that allow students to show their understanding of the standard.</p> <p><i>Performance tasks:</i></p> <ul style="list-style-type: none"> • are meaningful, • require a range of skills, • require students to create a response to a problem, and • require students to explain or defend their response, rather than simply select an answer from a ready-made list. <p>Performance tasks are specific, measurable student-centered activities that ask students to apply the skills and concepts they have learned. Performance tasks should be varied to meet individual students' learning styles and needs. They should allow students to develop and apply a range of knowledge and skills (e.g., an essay, theatrical performance, etc.).</p> <p>These tasks should be listed separately as individual components of the engaging scenario or as steps that allow students to complete the demands of a comprehensive scenario.</p>	<p>In this column, educators indicate how the tasks are categorized on Bloom's Taxonomy of educational objectives. Teachers should strive to ensure that there is a balance of higher-order and lower-order thinking skills.</p> <p>Generally, the performance tasks should range in emphasis from lower-order thinking skills (LOTS) to higher-order thinking skills (HOTS).</p> <p>For Bloom's Taxonomy: http://eduscapes.com/tap/topic69.htm</p>	<p>Each performance task has a correlating assessment, which clearly tells students what proficiency in completing the performance requires. The performance task assessment is a specific rubric or guide used to determine the student's progress on completing the task.</p> <p>Because each performance task is a specific, measurable, student-centered assignment, it is important for students to know how they are expected to perform in completing the task.</p> <p>Rather than develop a complete rubric, this column should record only the proficient criteria for each performance task. Educators should use the proficient criteria as a benchmark that they will share with students — or allow students to reflectively determine.</p>

Standard Assessment:

The *standards assessment* evaluates students' understanding of skills and concepts found in the standard. The standards assessment should focus attention on directly measuring mastery of the content standard (as opposed to a performance task assessment, which tests how well a student can *apply* specific concepts and skills).

Examples of standards assessments include sample released items on criterion-referenced or standardized tests, chapter or unit tests from textbooks, or teacher-generated test questions.

Resources:

Textbook Materials:

Supplementary Materials:

Resources should support educators' planning by recommending primary and supplemental materials adopted by the district, as well as resources that may not be available in each local school but are easily accessible. From these resources, educators may develop the specific activities to teach the standard's embedded skills and concepts. Recommendations for implementation of instructional technology also may be noted in this space.

Grade 4 Unit 1 Standards-Based Worksheet

District of Columbia Public Schools – Reading/English Language Arts

STANDARD

4.IT-E.1. Identify the purpose and main points of a text and summarize its supporting details.

Concepts:

- text
- purpose
- main points
- supporting details

Skills:

- identify (purpose, main points)
- summarize

Big Ideas:

- Authors write with a purpose.
- Texts often contain several main points.
- Supporting details explain or support the main points.
- Identifying the main points and supporting details yields comprehension.

Essential Questions:

- How do you determine the author's purpose?
- Why is it important to determine the author's purpose?
- How do you identify the main points of a text?
- How do you identify supporting details?
- Why is it important to identify the main points and supporting details in a given text?

Engaging Scenario:

You are a research assistant. An important researcher has asked you to read and study an article, explain the author's purpose and create a chart showing the main points and supporting details of each article. Your chart also must include a column for you to discuss your personal response and any questions the text provoked in your mind. You will present your chart in small groups for discussion before submitting it to the lead researcher.

PERFORMANCE TASKS	THINKING SKILLS (LOT → HOT)*	PERFORMANCE TASK ASSESSMENT (PROFICIENT CRITERIA)
Students read a new article independently and identify the author's purpose. Students justify the author's purpose in writing, using evidence from the text.	<p>identify (knowledge) LOT</p> <p>use evidence (synthesis) HOT</p> <p>justify (evaluation) HOT</p>	<p>Student clearly and completely identifies the author's purpose in the selected text.</p> <p>Student justifies the given response using direct text quotations as evidence.</p>
Students read an article independently, identifying main points by labeling them with post-it notes. Students meet in small group to compare and explain their choices.	<p>identify (knowledge) LOT</p> <p>compare & explain (analysis) HOT</p>	<p>Student correctly identifies and labels at least two main points in the selected text.</p> <p>Student uses direct text quotations to explain and compare their identification of the article's main points.</p>
Students read a non-fiction text determining Main Points and Supporting Details and recording them in a chart as they read.	<p>record (knowledge) LOT</p> <p>determine (application) LOT</p>	<p>Student correctly determines at least two main points.</p> <p>Student correctly determines at least three details for each main point.</p> <p>Student records responses in an orderly manner on the chart.</p>

Students formulate personal responses to the text and generate questions about the text, recording all responses in writing.	formulate (synthesis) HOT generate questions (evaluation) HOT record (knowledge) LOT	Student formulates at least three personal responses. Student generates at least two questions. Student records all responses in their proper locations on the chart in a clear and orderly manner.
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*See Bloom's Taxonomy of Thinking Skills to determine higher order thinking skills (HOT) or lower order thinking skills (LOT). The goal is to create tasks that employ higher order thinking skills.

Standard Assessment:

This article gives reasons for keeping a journal. Explain THREE reasons for keeping a journal, using important and specific information from the article to support your answer.
(2004 MCAS Grade 4 Item 35)

Resources:

Textbook Materials:

Houghton Mifflin Reading Teacher's Edition, Grade 4, Traditions. Theme 6 pp.685A-685B.

Supplementary Materials:

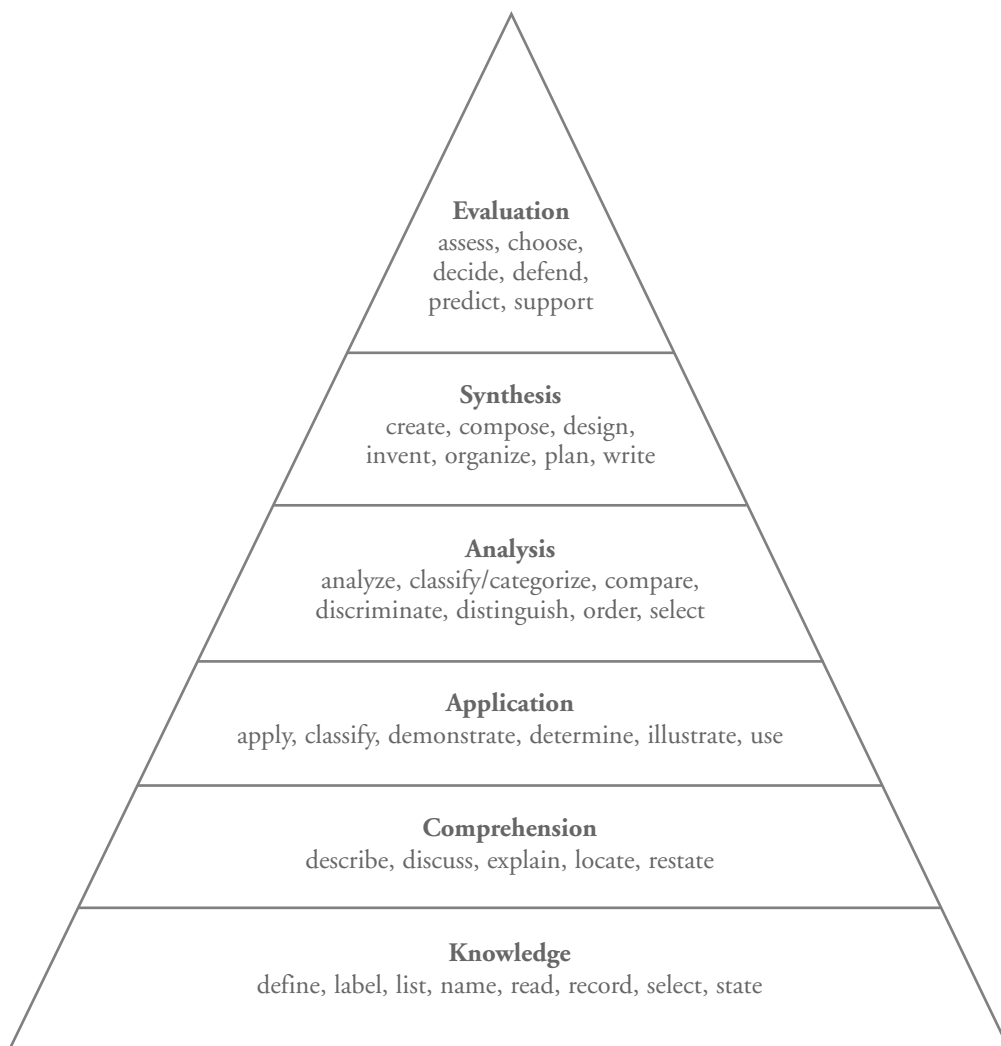
Kidspost in print or on-line at www.Washingtonpost.com (Contains non-fiction articles suitable for identifying author's purpose, main idea and supporting details.)

Children's Magazines- *Scholastic, Sports Illustrated for Kids* (High-interest non-fiction texts suitable for identifying author's purpose, main idea and supporting details.)

National Geographic for Kids (Articles also available on-line at www.nationalgeographic.com/kids.)

Bloom's Taxonomy

In 1956, Benjamin Bloom developed a classification for categorizing the level of abstraction of questions that commonly occur in educational settings, referred to as Bloom's Taxonomy. Bloom identified six levels within the cognitive domain, from the simple recall or recognition of facts (the lowest level), through increasingly more complex and abstract mental levels, to the highest order, which is classified as evaluation. When we talk about HOTS (higher-order thinking skills), we are concentrating on the top three levels of Bloom's Taxonomy. When we talk about LOTS (lower-order thinking skills), we are concentrating on the bottom three levels of Bloom's Taxonomy. Each individual box below lists verbs that correspond to a specific level of thinking, providing a useful structure in which to categorize performance tasks and performance assessments. The specific verbs indicated are not intended to be an exhaustive list but rather examples of what might be expected within each domain.



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Wilma F. Bonner, Ed. D.
*Assistant Superintendent for Curriculum
and Instruction*

Michael J. Kaspar, Ph.D.
Content Director, Science

Jesse Nickelson
Content Director, Social Studies

Elizabeth Primas, Ed.D.
*Content Director, Reading/English
Language Arts*

Sue White
Content Director, Mathematics

Reading/English Language Arts

Kenyatta Graves
*Team Lead
Conscious Vigilance Education Consultants*

Tiffany Balance
Former Teacher, DCPS

Jennifer Bowers
Barnard Elementary School

Alethea Bustillo
Bruce Munroe Elementary School

Rosanna Fahey
*Former Teacher, Montgomery County (MD)
Public Schools*

Celine Fejeran
LaSalle Elementary School

Jay Frazier
The Castilleja School (Palo Alto, CA)

Robyn R. Jackson
Montgomery County (MD) Public Schools

Leah Denechaud Tipton
*Former Teacher, The Key School
(Annapolis, MD)*

Charles Washington
Kelly Miller Middle School

Math

Wendy DenBesten
*Team Lead, Grade 7–Calculus
Fresno (CA) Unified School District*

Bob Thurston
*Team Lead, Grades K–6
Lafayette Elementary School*

Kimika Anthony
John Eaton Elementary School

Tina DeAnna
Watkins Elementary School

Rosanna Fahey
*Former Teacher, Montgomery County (MD)
Public Schools*

Julie Greenberg
Montgomery County (MD) Public Schools

Nuhad Jamal
Bruce Monroe Elementary School

Lipia Kurtz-Gereau
Raymond Elementary School

John Mungai
Deal Junior High School

Joanne Nelson
Ballou Senior High School

Aris Pangilinan
HD Woodson Senior High School

John Seelke
McKinley Tech Senior High School

Karen Wingfield
Ballou Senior High School

Science

Scott Hicke
*Team Lead
StandardsWork, Inc.*

Angela Benjamin
Wilson Senior High School

Judy Bowers
Watkins Elementary School

Charles Butler
School Without Walls

Deborah Haase
Montgomery (MD) County Public Schools

Kendra Heffelbower
Watkins Elementary School

Kim Lane
Prince George's County (MD) Public Schools

Grace Manubay
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(Washington, DC)*

Alma Miller
Former Teacher, DCPS

Cyndi Reed-Rickards
St. Joseph's University

Kristina Tharpe
Truesdell Elementary School

Karen Weller
George Mason University

Social Studies

Brad Hopewell
*Team Lead
Banneker Senior High School*

Caroline Davis
McGogney Elementary School

Kathy Dryden
Deal Junior High School

Craig Duff
Randle Highlands Elementary School

Koura Gibson
McKinley Senior High School

Donna Grogan
Nevel Thomas Elementary School

Cosby Hunt
Bell Multicultural Senior High School

Laure Hunter
Janney Elementary School

Sylvia Isaac
School Without Walls

James Monack
Banneker Senior High School

Shannon Snowe
MM Washington Senior High School

Amy Trenkle
Stuart Hobson Middle School

SECTION I: GRADE-LEVEL STANDARDS AND LEARNING ACTIVITIES

Grade-Level Standards and Learning Activities

This section provides teachers with grade-specific standards. Many contain sample learning activities (written in italics) that further clarify the meaning of the standard for teachers and students alike. The sample learning activities show how a standard might be addressed in the classroom and also provide teachers with ideas that they can develop into standards-based worksheets (described in Tab 2) or lesson plans. (Note: Teachers also have subject-specific guides to the standards for pre-K through grade 12, which show the progression of skills across the grades.)

Teachers will note that in reading/English language arts and mathematics, the standards are organized according to "strands" (e.g., beginning reading, informational text, English language conventions, number sense and operations, measurement) and employ a numbering system that alerts the teacher to the strand in which a standard falls. Science and social studies use a different numbering system, built on the broad concepts around which those standards are organized.

KINDERGARTEN STANDARDS AND LEARNING ACTIVITIES

SCIENTIFIC THINKING AND INQUIRY

K.1. Broad Concept: Scientific progress is made by asking relevant questions and conducting careful investigations. As a basis for understanding this concept, and to address the content in this grade, students should develop their own questions about objects or events they can observe, and then perform simple investigations.

Students:

1. Describe objects accurately by drawing pictures.
2. Raise questions about the natural world and know that scientific inquiry can be used to seek answers to questions about it.
3. Gather information about objects through the use of one or more of the senses, such as sight, smell, touch, and (under supervision) taste.
4. Use magnifiers to see small features of objects.
5. Use a thermometer to measure temperature.

Examples *Students share what they observe as they hold leaves or flowers and while using a magnifying glass to see the same leaves and flowers (K.1.3 and K.1.4).*
Students measure the temperature of the air and soil where the trees or flowers grow (K.1.5).

EARTH SCIENCE

K.2. Broad Concept: Objects in the sky move in predictable patterns. As a basis for understanding this concept,

Students:

1. Recognize that day and night repeat in a predictable pattern.
2. Recognize that seasons repeat in predictable patterns over time.
3. Know the sun, moon, and stars can be observed at certain times of the day.

Examples *Students read poems about the seasons and describe the changes that occur and the conditions that are necessary when one season moves into another (K.2.2).*
Students make a class list of what they see outdoors and in the sky during the day. They make another list of things they see outdoors and in the sky at night. Students discuss the differences between the information on the day and night lists (K.2.3).

PHYSICAL SCIENCE

K.3. Broad Concept: Objects can be described by their observable properties. As a basis for understanding this concept,

Students:

1. Recognize that objects are made of materials with particular properties, such as clay, cloth, paper, metal, etc.
2. Investigate and compare physical properties of objects (e.g., color, size, shape, weight, texture, flexibility, attraction to magnets, ability to float and sink).

Examples *Students build houses or dwellings from the different materials and discuss the process of construction, the benefits and the problems with using each kind of material (K.3.1).*

Students add appropriate objects of different masses, sizes, shapes, weights, etc. onto their dwellings. They observe the changes those objects make to the dwellings (K.3.2).

K.4. Broad Concept: The motion of objects can be observed and measured. As a basis for understanding this concept,

Students:

1. Compare the position of an object in relationship to another object.
2. Explain that things move in many different ways, such as straight, zigzag, round and round, back and forth, and fast and slow.

Examples *Students move marbles or balls of different sizes and masses, both on a table and in water. They explain the kinds of motion each object can have, and they describe the positions of each object (K.4.1 and K.4.2).*

Students observe an ant farm and point out the ants underground, on the ground, and above the ground on the mound (K.4.2).

LIFE SCIENCE

K.5. Broad Concept: Different types of plants and animals inhabit the Earth. As a basis for understanding this concept,

Students:

1. Know there are many different kinds of plants and animals.
2. Describe that plants and animals are alike in some ways and different in others (e.g., appearance and behavior).

Examples *Students visit the zoo, or observe plants, insects, birds, and other animals that live around their school. They describe the qualities of each. They compare them to others found in another country that they observe on the Internet or in a book (K.5.1).*

Students use a Venn diagram to display how animals are alike and how they are different, using information they gathered and what they observed (K.5.2).

SECTION 2: YEAR AT A GLANCE, UNIT ROADMAPS, AND STANDARDS-BASED WORKSHEETS

Year at a Glance, Unit Roadmaps, and Standards-Based Worksheets

This section contains three sets of tools teachers can use in planning their instruction:

Year at a Glance

This overview has two primary purposes: (1) to identify the "power standards" in a given content area for a given grade and (2) to sequence the coverage of those power standards into instructional units that cover the school year. Each year at a glance contains a grade or course overview that provides teachers with a rationale for the sequencing of the units.

Grade-Level Unit Roadmaps

The roadmaps group standards that support and reinforce one another into units of instruction.

Grade-level unit roadmaps contain three important components:

- Identification of "connecting standards" that support, reinforce, and are relevant to the teaching and learning of the "power" standards.
- A rationale for grouping particular "power standards" and "connecting standards" into instructional units, which explains how the group of standards works together, taking advantage of the synergies between and among standards.

- An indication of where in the primary textbook resource a teacher might find lessons to support the instruction.

Grade-Level Standards-Based Worksheets

The worksheets "drill down" on each power standard and provide the teacher with tools to better understand and teach the standard. Each worksheet covers several issues — big ideas, essential questions, engaging scenarios, performance tasks, performance assessments, and standards-based assessments. The worksheets also list resources, both textbook and supplemental. Specific attention has been given to identifying Web-based supplemental resources.

These worksheets provide detail for teachers — giving them the means to immerse themselves (and their students) in a standard, dissecting and unwrapping it to result in greater mastery by students.

KINDERGARTEN AT A GLANCE

DISTRICT OF COLUMBIA PUBLIC SCHOOLS — SCIENCE

GRADE OVERVIEW: Students begin their formal science education by identifying, grouping, and investigating objects that are available in their world. They move from using physical properties to considering not only the space between objects, but also how those objects move from place to place. Students apply what they've learned to observe motion in the sky, and they begin to understand how the sun, moon, and stars are used to identify time. Students measure the passing of time in the seasons over a longer period to use all the skills they have learned during the year.

	UNIT	POWER STANDARDS COVERED
1st advisory	Unit 1: Question, Find, and Answer	K.3.2. Investigate and compare physical properties of objects (e.g., color, size, shape, weight, texture, flexibility, attraction to magnets, ability to float and sink).
2nd advisory	Unit 2: Animated Animals	K.5.2. Describe that plants and animals are alike in some ways and different in others (e.g., appearance and behavior).
3rd advisory	Unit 3: Here, There, and Everywhere	K.4.1. Compare the position of an object in relationship to another object. K.2.1. Recognize that day and night repeat in a predictable pattern.
4th advisory	Unit 4: When It's Hot; When It's Not	K.2.2. Recognize that seasons repeat in predictable patterns over time.

KINDERGARTEN UNIT I ROADMAP: QUESTION, FIND, AND ANSWER — ADVISORY I DISTRICT OF COLUMBIA PUBLIC SCHOOLS — SCIENCE

POWER STANDARD	CONNECTING STANDARDS	RATIONALE
K.3.2. Investigate and compare physical properties of objects (e.g., color, size, shape, weight, texture, flexibility, attraction to magnets, ability to float and sink).	K.1.3. Gather information about objects through the use of one or more of the senses, such as sight, smell, touch, and (under supervision) taste. K.1.4. Use magnifiers to see small features of objects. K.3.1. Recognize that objects are made of materials with particular properties, such as clay, cloth, paper, metal, etc.	Students begin their formal science education by identifying, grouping, and investigating objects that are available in their world based on the observable physical properties.

Kindergarten Unit 1 Standards-Based Worksheet

District of Columbia Public Schools – Science

STANDARD

K.3.2. Investigate and compare physical properties of objects (e.g., color, size, shape, weight, texture, flexibility, attraction to magnets, ability to float and sink).

Concepts:

- objects
- properties
- color
- size
- shape
- weight
- texture
- flexibility
- attraction
- magnets
- float

Skills:

- investigate (properties)
- compare (objects)

Big Ideas:

- Various things about an object can be understood by identifying and comparing with other objects.
- Our daily activities depend on identifying and classifying the things around us.
- Not everything can be described with physical properties.

Essential Questions:

- Why are things different?
- Why do we need to identify objects and speak about them clearly?
- How do we use our senses to gather information about objects?
- Why do you talk about objects by using color, shape, size, feel, etc.?
- How many ways can you describe yourself?
- What things can you not describe with physical properties and why?

Engaging Scenario:

You are a young detective looking for clues to identify the Mystery Birthday Gift. You will have to conduct a series of investigations to practice your investigation and classification knowledge and then put them to use in order to select the Mystery Birthday Gift from an assortment of gifts with similar (but not exact) physical properties.

PERFORMANCE TASKS	THINKING SKILLS (LOT → HOT)*	PERFORMANCE TASK ASSESSMENT (PROFICIENT CRITERIA)
Students observe groups of objects that are grouped according to similar properties (i.e., a group of different buttons, papers, cars, faces, etc). Students identify objects in those groups according to one property at a time: color, shape, and size.	identify (knowledge) LOT	Students correctly identify the color, shape and size of selected objects by drawing pictures that correctly portray two out of three of the selected properties.
Students ask questions about a group of objects to articulate other physical properties besides color, shape, and size.	articulate (application) LOT	Student articulates at least two other physical properties.
Students collect a variety of objects from within the classroom, describe their objects using their senses, and create a "Physical Properties" chart from those descriptive words.	create (synthesis) HOT	Students correctly describe at least four objects using at least two "property words" (e.g., color, size, weight). The "Physical Properties chart" contains at least three of the property words, the senses used to discover that property and one example of for each (e.g., Color – Sight - Red).
Students play a game using the collection of objects of varying weights and textures (wooden or plastic blocks, spoons, feathers, etc.) in a grab bag. Students pull five objects each and match their objects according to similar physical properties. They proceed to measure the objects on a balance and arrange them in order of increasing weight.	match (knowledge) LOT arrange (analysis) HOT	Students correctly match at least two sets of objects based upon like properties. Students identify which property was used to compare the objects and describe their texture. Students correctly measure two objects on a balance to determine which object weighs more or less than another. Students correctly order the objects based upon the increasing relative weight.

<p>Provided with an assortment of objects (possible birthday gifts) that are hidden from view, students plan a series of investigations based on physical properties to come to a conclusion about which object in particular is the mystery object. Then, they are given clues to conduct their investigation.</p> <p>Examples for Clues:</p> <ul style="list-style-type: none"> Color – red Shape – round Size – small Weight – light (less than most other objects) Texture – soft Flexible – bendable Magnetic–non-magnetic (property not tested) Sink/float – floats (property not tested) 	<p>plan (synthesis) HOT</p> <p>conclude (evaluation) HOT</p>	<p>Students correctly sort a small group of objects according to the identified clues and are able to select the Mystery Birthday Gift.</p>
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*See Bloom's Taxonomy of Thinking Skills to determine higher order thinking skills (HOT) or lower order thinking skills (LOT). The goal is to create tasks that employ higher order thinking skills.

Standard Assessment:

- 1) Describe and sort a set of objects based on at least two physical properties.
- 2) Explain how two physical properties are used every day to identify things around you.

Resources:

Textbook Materials:

FOSS Science – Animals; Delta Education, Inc., 2002.

FOSS Science – Trees; Delta Education, Inc., 2002.

Supplementary Materials:

<http://www.atozkidsstuff.com/color.html> (Activities with colors.)

<http://www.kidsites.com/sites-edu/science.htm> (Various activities and websites for physical properties.)

www.brainpop.com (Cartoons explaining physical properties.)

<http://www.cdm.org/viewPage.asp?mlid=30&cid=2&sid=&aid=56> (Children's Discovery Museum activities for kindergarteners.)

KINDERGARTEN UNIT 2 ROADMAP: ANIMATED ANIMALS — ADVISORY 2

DISTRICT OF COLUMBIA PUBLIC SCHOOLS — SCIENCE

POWER STANDARD	CONNECTING STANDARDS	RATIONALE
K.5.2. Describe that plants and animals are alike in some ways and different in others (e.g., appearance and behavior).	K.5.1 Know there are many different kinds of plants and animals. K.1.1. Describe objects accurately by drawing pictures.	Students use physical properties learned in the previous unit to further classify natural objects. Students draw pictures to note the properties that are being compared.

Kindergarten Unit 2 Standards-Based Worksheet

District of Columbia Public Schools – Science

STANDARD

K.5.2. Describe that plants and animals are alike in some ways and different in others (e.g., appearance and behavior).

Concepts:

- plants
- animals
- appearance
- behavior

Skills:

- describe (similarities and differences in plants)

Big Ideas:

- Living things have characteristics that differ from non-living things and things that once were alive.
- Plants and animals require certain environmental conditions to survive.
- Plants and animals around the world have evolved from similar, but different, ancestors.

Essential Questions:

- What is alive?
- How can you tell if something is alive?
- How does the environment influence plant and animal behavior?
- How do some animals behave like humans?
- Why are there so many variations of animals and plants?

Engaging Scenario:

You are a young explorer going on a “safari” to find wildlife (plants and animals) in various environments. You will make critical observations in order to identify and describe at least one plant and one animal from each environmental setting that interests you. At the end of your expedition, make a booklet to show likenesses and differences in various plants and animals by using photographs and/or drawings of at least one or more life-forms from each of the environments.

PERFORMANCE TASKS	THINKING SKILLS (LOT → HOT)*	PERFORMANCE TASK ASSESSMENT (PROFICIENT CRITERIA)
Students visit a zoo to observe and identify plants and animals as living things. They record observations through photographs and/or drawings.	record (knowledge) LOT	Students correctly capture or draw a picture of a plant and a picture of an animal.
Students observe plants and animals within the school as well as outside the school. They describe the differences in appearance and behavior of the humans, animals, and plants they observe. They record observations through photographs and/or drawings.	record (knowledge) LOT describe (comprehension) LOT	Students correctly draw a picture of another person, a schoolyard animal, and a picture of a schoolyard plant. Students correctly describe one difference between the appearance and behavior of the three life-forms.
Students construct a terrarium and an aquarium to observe and compare the appearance and behavior of land and aquatic plants and animals. They determine what will be necessary to place in each model in order for plants and animals to live.	construct & determine (application) LOT	Terrarium and aquarium have the necessary food, water, soil, rocks, temperature, etc. to sustain at least one plant and one animal.
Students observe plants and animals in aquatic and terrestrial environments and describe what they need to live. They record observations through photographs and/or drawings and explain how the environment supports the life.	explain (analysis) HOT	Students correctly describe at least two environmental conditions that animals need to live and two conditions that plants need to live.
Using photographs and/or drawings of more exotic animals and plants, students compile a booklet that compares their observations, descriptions, and pictures of local life with plants and animals from around the world.	compile (synthesis) HOT compare (evaluation) HOT	Students correctly match pictures or drawings of plants and animals for likenesses in structure. Also, students correctly match pictures or drawings of plants and animals for likenesses in behavior.

*See Bloom's Taxonomy of Thinking Skills to determine higher order thinking skills (HOT) or lower order thinking skills (LOT). The goal is to create tasks that employ higher order thinking skills.

Standard Assessment:

- 1) Describe the structures of at least two different animals and two different plants.
- 2) Describe how plants behave differently than animals.
- 3) Explain why some plants and animals live in different places.

Resources:

Textbook Materials:

FOSS Teacher's Guide, *Animals Two by Two*, Delta Education, Inc., 2003.

FOSS Teacher's Guide, *Trees*, Delta Education, Inc., 2003.

Supplementary Materials:

How a Seed Grows, Helene Jordan and Loretta Krupinski: HarperCollins Children's Books, 1992 (Picture book following the development of a plant.)

What's It Like to Be a Fish? Wendy Pfeffer and Holly Keller: HarperCollins Children's Books, 1996 (Picture book following the life of a fish.)

Honey in a Hive, Anne Rockwell: HarperCollins Children's Books, 2005 (Picture book about the behavior and lives of bees.)

<http://www.nationalgeographic.com/kids/> (Games, stories, and activities about animals and plants.)

<http://www.enchantedlearning.com/categories/preschool.shtml> (Activities and some informative materials for younger ages.)

<http://nationalzoo.si.edu/default.cfm> (National Zoo site with learning activities and resources for comparing the lives of plants, animals, and their environments.)

KINDERGARTEN UNIT 3 ROADMAP: HERE, THERE, AND EVERYWHERE — ADVISORY 3

DISTRICT OF COLUMBIA PUBLIC SCHOOLS — SCIENCE

POWER STANDARD	CONNECTING STANDARDS	RATIONALE
K.4.1. Compare the position of an object in relationship to another object.	K.4.2. Explain that things move in many different ways, such as straight, zigzag, round and round, back and forth, and fast and slow. K.1.2. Raise questions about the natural world and know that scientific inquiry can be used to seek answers to questions about it.	Students move beyond identifying and classifying objects. They consider the space between A and B and how to move from A and B.
K.2.1. Recognize that day and night repeat in a predictable pattern.	K.2.3. Know the sun, moon, and stars can be observed certain times of the day.	Students apply their knowledge about motion and concepts of time to familiar objects in the sky.

Kindergarten Unit 3 Standards-Based Worksheet

District of Columbia Public Schools — Science

STANDARD

K.4.1. Compare the position of an object in relationship to another object.

Concepts:

- position
- object
- relationship

Skills:

- compare

Big Ideas:

- Knowing the position of an object helps determine distance, direction, and speed.
- Objects move in relationship to their position with another object.
- Objects can be placed beside, behind, in front, or in between other objects.

Essential Questions:

- How can the position of another object help you to know where you are?
- How does the position of something change an object?
- What is a shadow? How do shadows change in size, shape, or position?
- How do we know that the position of objects share relationships?
- What words can we use to describe the relationship between objects?

Engaging Scenario:

You are a young adventurer exploring light and shadows. You are making observations and collecting evidence to recount and demonstrate some of the adventures of the character, Bear Shadow. You will compare your observations with the adventures described in the story. Upon completion of your investigations, perform a play that presents some of Bear Shadow's experiences that show the relationship between light, and the position of objects and shadows.

PERFORMANCE TASKS	THINKING SKILLS (LOT → HOT)*	PERFORMANCE TASK ASSESSMENT (PROFICIENT CRITERIA)
Students discuss what they know about shadows and then they explore making shadows by placing different objects between the light source and the wall. They discuss the features and position of their shadows.	discuss (knowledge) LOT	Students will correctly draw pictures showing the light source, the object, and the shadow that was made.
Students read or listen to the story about Bear Shadow by Frank Asch and discuss what happened.	discuss (comprehension) LOT	Students correctly write or complete a sentence that describes one thing based upon the information in the book that happened to the Bear's shadow.
Students compare changes in shadows by making shadows when holding objects close to the light source, then moving the object farther away from the light source. They compare and describe the difference in size.	compare (analysis) HOT	Using a prepared assessment sheet students correctly identify the appropriate size of the shadow when the object is close to the light source and correctly identify the appropriate size of the shadow when the object is farther from the light source.
Students explore changes in shadows by making shadows when holding objects in different positions to the light source (placing the object upright, laying the object on the side, placing the object at an angle, placing the object next to the light, behind the light, etc.). They compare and describe the differences in shape.	compare (analysis) HOT	Using a prepared assessment sheet with the drawings of the shadows, students correctly match the shape of the shadow to the position and shape of the object as it relates to the light source.
Students create and perform a shadow puppet play about the different positions that objects can have in relationship to one another.	create (synthesis) HOT	The story correctly describes how objects can be positioned in different fashions in relationship to another object.

*See Bloom's Taxonomy of Thinking Skills to determine higher order thinking skills (HOT) or lower order thinking skills (LOT). The goal is to create tasks that employ higher order thinking skills.

Standard Assessment:

- 1) Identify things that are “here” and things that are “there.”
- 2) Describe the different ways that objects can be positioned with one another.
- 3) Compare the position of an object in relationship to another object.

Resources:

Textbook Materials:

FOSS, *Wood and Paper* (Delta Education, Inc., 2000) Investigation 2, Parts 3-4, p. 16-23.

FOSS, *Animals 2x2* (Delta Education, Inc., 2000) Investigation 1, Part 3, p. 22-25.

Supplementary Materials:

Bear Shadow, Frank Asch: Simon & Schuster, Illustrated - Prentice-Hall, 1985 (A silly story about a bear who attempts to escape a shadow that seems to be chasing him.)

Delta Science Readers: Sunshine and Shadows, Delta Science Modules, Delta Education, 2004 (Engaging, 16 page nonfiction reader extends classroom inquiry and makes real world connections to patterns in the day sky.)

<http://www.sciencenetlinks.com> (Exploratory activities for teachers and children and informative materials.)

<http://www.teachthechildrenwell.com/science.html> (Collection of links to science topics for children, teachers and parents.)

<http://museumschool.sandi.net/departments/shdwpppt.html> (Shadow activities and more.)

<http://www.osv.org/kids/crafts2.htm> (Activities for making shadow theaters and puppets.)

Kindergarten Unit 3 Standards-Based Worksheet

District of Columbia Public Schools — Science

STANDARD

K.2.1. Recognize that day and night repeat in a predictable pattern.

Concepts:

- day
- night
- pattern

Skills:

- recognize (day and night pattern)

Big Ideas:

- The rotation (spin) of the Earth causes times of light (day) and shadow (night) to repeat.
- The sun and moon appear to move slowly across the sky as the Earth rotates.
- People predict the pattern of day and night by knowing the times that their part of the Earth faces the Sun or not.

Essential Questions:

- How is your daily life dependent on knowing when day and night arrive?
- What kinds of cycles or routines do plants and animals have that depend on day and night repeating?
- What things are seen in the day sky?
- What things are seen in the night sky?
- How does the Earth move?

Engaging Scenario:

You are space explorers traveling around the Earth on a satellite observatory. You are making observations and collecting evidence to show predictable patterns in the Earth's movement and you communicate those patterns with your mission control on Earth. Compare your observations of Earth from your satellite with what mission control sees from the base. Upon completion of the trip, prepare a mural for your town's local school that shows those daytime and nighttime patterns in the sky.

PERFORMANCE TASKS	THINKING SKILLS (LOT → HOT)*	PERFORMANCE TASK ASSESSMENT (PROFICIENT CRITERIA)
Students take trips outdoors on a regular basis in order to investigate the daytime sky. (Students do the same for the night time sky when at home.) They identify any changes and look for patterns in these changes through drawings.	identify (knowledge) LOT	Students correctly draw a picture of objects seen in the daytime sky for at least four different times of day. Students correctly draw a picture of objects seen in the nighttime sky for at least two different times of night. Pictures adequately represent some change in position of objects in both the daytime and night time skies.
Students use a Venn diagram to compare the objects seen in the day and night sky.	compare (comprehension) LOT	Students are able to identify two qualities of each object and show how at least one of those qualities (movement, light source, etc.) applies to objects in both the daytime and night time skies.
Students diagram the moon's shape for each evening on a "moon calendar" by drawing the changes in the moon over an eight week period.	diagram (analysis) HOT	Students correctly draw at least three pictures of the moon for each week (for a total of 24 for two months) that adequately show how the changes in the moon's shape repeat in a pattern from full moon to new moon and back to full moon, etc.
Students role-play and act communications between what the satellite sees and what the people on Earth at mission control see over a week's time. (A darkened classroom, light source, and globe may be used as props to demonstrate that the sun is a star that always shines and gives off light to the Earth. When the light is on one side of the earth, it's day and when it's not, its night. They rotate (spin) the globe to show that the pattern repeats itself over and over again).	act (application) LOT	Students on the satellite should be able to say that the Earth rotates and that light strikes one side of the planet, leaving the other side dark. Students on Earth should be able to say that they experience light at one time and darkness at another time. Both groups should be able to say that the pattern repeats itself.

Students create a mural that represents objects and patterns in the daytime sky and the night time sky.	create (synthesis) HOT	The mural adequately distinguishes at least one observable pattern for both the daytime and night time sky.
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*See Bloom's Taxonomy of Thinking Skills to determine higher order thinking skills (HOT) or lower order thinking skills (LOT). The goal is to create tasks that employ higher order thinking skills.

Standard Assessment:

- 1) Describe patterns observed in the daytime and night time sky.
- 2) Describe what happens as the Earth rotates.

Resources:

Textbook Materials:

Standard is application based.

Supplementary Materials:

Delta Science Readers: Sunshine and Shadows, Delta Science Modules: Delta Education, 2004 (Engaging, 16 page nonfiction reader extends classroom inquiry and makes real world connections to patterns in the day sky.)

Delta Science Readers: Finding the Moon, Delta Science Modules: Delta Education, 2004 (Engaging, 16 page non-fiction reader extends classroom inquiry and makes real world connections to patterns in the night sky.)

Scott Foresman Science K.9: Day and Night, Adam Finnegan: Pearson Scott Foresman, 2004 (Nonfiction science connection book promotes communication skills and day and night sky science content.)

<http://www.die.net/earth/hemisphere.html> (Great website that shows the light and shadow sides of Earth at different times of day.)

<http://www.lessonplanspage.com/ScienceDayNightK.htm> (Exploratory activities for younger ages.)

http://www.perpetualpreschool.com/preschool_themes/day/day_and_night.htm (Exploratory activities for younger ages.)

<http://www.teachthechildrenwell.com/science.html> (Collection of links to science topics for children, teachers and parents.)

<http://www.sciencenetlinks.com> (Activities and some informative materials for teachers and children.)

KINDERGARTEN UNIT 4 ROADMAP: WHEN IT'S HOT; WHEN IT'S NOT — ADVISORY 4

DISTRICT OF COLUMBIA PUBLIC SCHOOLS — SCIENCE

POWER STANDARD	CONNECTING STANDARDS	RATIONALE
K.2.2. Recognize that seasons repeat in predictable patterns over time.	K.1.5. Use a thermometer to measure temperature.	Students note the passing of time in the seasons by using a scientific tool to gather data and interpret evidence. They repeat that investigation over a longer time period.

Kindergarten Unit 4 Standards-Based Worksheet

District of Columbia Public Schools — Science

STANDARD

K.2.2. Recognize that seasons repeat in predictable patterns over time.

Concepts:

- seasons
- patterns
- time

Skills:

- recognize

Big Ideas:

- The Earth travels around the sun.
- Seasons occur over and over in the same order.
- Seasons affect our lives in many ways.

Essential Questions:

- What are the characteristics of the four seasons?
- How do weather patterns change from season to season?
- What is the pattern that seasons follow?
- How do the changing seasons affect plant and animal behavior?
- How are our lives affected by seasons?

Engaging Scenario:

You are a budding artist working on a project for a local museum. You have been asked to create dioramas of the four seasons (including such things as the temperature of the air, activities, clothing that might be worn, and signs of nature). At the museum, you will each describe the season depicted in your diorama and share with the class and visitors which season precedes your selected season and which season follows your selected season.

PERFORMANCE TASKS	THINKING SKILLS (LOT → HOT)*	PERFORMANCE TASK ASSESSMENT (PROFICIENT CRITERIA)
Students sing songs and recite poetry about the seasons. Students then discuss the lyrics and verse in order to identify and distinguish the characteristics of the seasons of the year.	<p>identify (knowledge) LOT</p> <p>distinguish (comprehension) LOT</p>	Students correctly identify at least two appropriate characteristics of each of the four seasons.
Students measure different temperatures and explain how warm and cold temperatures are associated with different seasons.	<p>explain (analysis) HOT</p>	Students correctly identify the thermometer that shows the warm temperature and the thermometer that shows the cold temperature, and associate them with three of the four seasons.
Students identify signs of nature that relate to each of the seasons and describe how their lives are affected by the different seasons.	<p>identify, describe (knowledge) LOT</p>	Students correctly identify at least three signs of nature related to two seasons and demonstrate an understanding of how our lives are affected by the seasons.
Students work in cooperative groups of four to construct dioramas of the four seasons to be showcased in the class museum. Students use a shoe box, pictures from magazines and teacher supplied materials to include in the actual diorama building. Each group is assigned one season.	<p>construct (synthesis) HOT</p>	Each group member includes the proper materials and pictures to represent the season depicted in their diorama. Dioramas provide an indication of the temperature of the air, the activities, the clothing that might be worn, and signs of nature that might occur during their selected season.
Each group member takes part in presenting their diorama to the class and visitors. Students explain the characteristics of the season depicted as well as identify the seasons that precede and follow their selected season.	<p>explain (evaluate) HOT</p>	Each group member correctly identifies the components of their diorama. They also correctly explain the characteristics of the season depicted and describe the seasons that precede and follow their selected season.

*See Bloom's Taxonomy of Thinking Skills to determine higher order thinking skills (HOT) or lower order thinking skills (LOT). The goal is to create tasks that employ higher order thinking skills.

Standard Assessment:

- 1) Describe characteristics of each season.
- 2) Describe how weather patterns change with different seasons.
- 3) Describe how human activity relates to seasonal changes.

Resources:

Textbook Materials:

FOSS, *Trees* (Delta Education, Inc., 2000) Investigation 3, Parts 1-9, p. 10-38.

FOSS, *Science Stories*, (Delta Education, Inc., 2000) pp. 14-23.

Supplementary Materials:

Animal Seasons, Brian Wildsmith: Oxford University Press, 1996 (Describes how animals live during different seasons.)

Bear in Sunshine, Stella Blackstone: Barefoot Books, 2001 (Uses rhyming text and colorful art to explain weather and seasons.)

Circle of Seasons, Gerda Muller, Dutton Books, 1995 (Illustrations and simple text that describe the types of weather for each season.)

Sunshine Makes the Seasons, Franklyn M. Branley, Harper Collins, 2005 (A clear explanation of seasonal changes with a carefully illustrated hands-on experiment.)

Science Songs, Majorie Frank and Larry Spivak, Harcourt, 2006 (Great CD describing the seasons.)

<http://www.lessonplanspage.com/ScienceMathMeasuringTempSeasonsK1.htm> (Exploratory activities about the seasons for younger ages.)

<http://www.teachthechildrenwell.com/science.html#sea> (A collection of links to topics about the seasons for children, teachers, and parents.)

<http://www.sciencenetlinks.com/lessons.cfm?BenchmarkID=4&DocID=155> (An additional lesson plan to teach K-2 students about making observations during the day and night while looking for patterns in what they see.)
